

# PUBLIC HEALTH REPORT

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## Hemolytic Disease Of the Newborn

### A New Law for Prenatal Blood Test and Disease Reporting

IN 1968 RH IMMUNE GLOBULIN was licensed and became commercially available. It offers Rh-negative women the means for preventing maternal Rh isoimmunization and hemolytic disease of the newborn (HDN) in their subsequent pregnancies. At present, HDN accounts for 3 percent of California's perinatal mortality, accounting directly for more than 1,600 deaths in the last five years. Estimates of the total morbidity from HDN range from 1,000 to 2,000 cases a year, with some of the patients having serious continuing disabilities as a result. A partial measure of this morbidity is found in the 108 patients in state institutions with mental retardation due to HDN. In addition to the personal and family tragedy involved, the annual cost for the care of these patients alone is \$648,000 a year. It is clear that the human and economic costs of the disease make the effective use of the new agent an urgent medical issue.

In California, there are an estimated 51,000 non-sensitized Rh-negative women terminating pregnancy each year, and ideally, nearly all will receive Rh Immune Globulin. If such a preventive program is consistently carried out, the immunization will eventually save 400 infant lives a year in California, as well as prevent the disability and family burdens that often accompany the disease. However, some difficulties can be expected because Rh Immune Globulin has unique and demanding characteristics. Specifically, (1) it must be administered *after each* pregnancy, (2) the time element is uncompromising (it must be given within 72 hours after termination of pregnancy), (3) it is still relatively expensive, (4) it is used as an integral part of the physician's management of an individual patient, and is not amenable to use in public or mass programs.

With these points in mind, last year the Legislature passed a bill (AB 2026) authored by Mr.

MacDonald (D-Ventura) to provide a means for control and surveillance of HDN. The law has three basic features. One is that blood typing be done (or known) for all prospective mothers, a recommended standard for prenatal care for many years. The second is that the woman be informed of the results of the blood typing. The third is that all cases of HDN be reported.

The blood typing and informing of the mother are clearly elements pertaining to the physician and the clinic or hospital in which he practices. The implications of the legislation call for a review and strengthening of procedures to assure that women who are Rh negative are identified, the primary step toward effective use of the immune globulin. The third requirement pertains to both the private and public sectors and asks for reporting of HDN to the California Department of Public Health. This will allow an assessment of the problems and impact of the new immunization.

A preliminary survey by this department has already identified some areas of difficulty in an effective preventive program. It was found that a number of women were refusing the immunization because they did not intend to have additional children. Because contraceptive failures occur and intentions regarding pregnancy change, this reason for refusal may prove to be faulty. Other reasons for refusal were religious beliefs and inability to pay. Since its introduction, the cost of the product has been reduced from \$64 to \$30 at this writing, and refusals due to cost have probably been decreased as well. Moreover, many blood banks stock the Rh Immune Globulin and will exchange it for a blood donation. The survey, which did not include the entire state, also identified two hospitals which had not stocked the product.

As surveillance of HDN is achieved, the progress and trend data from the reports will be presented to the medical profession. If significant areas of breakdown in preventive measures are identified, they will be noted so corrective action can be taken. We now have an opportunity to virtually eliminate the problem of hemolytic disease of the newborn in the next decade. The cooperation and diligence of physicians, hospitals and laboratories will be the essential elements for the success of this effort.